

C. Remarks

The claims are 1-8, 10-18 and 20-28, with claims 1, 16, 24, 25, 27 and 28 being independent. The independent claims have been amended to clarify the present invention. Support for this amendment may be found throughout the specification and the claims. No new matter has been added. Reconsideration of the claims is expressly requested.

Claims 1-8, 10-18 and 20-28 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by U.S. Patent No. 6,306,643 B1 (Gentalen). The grounds of rejection are respectfully traversed.

Prior to addressing the merits of rejection, Applicants would like to briefly review some of the key features and advantages of the presently claimed invention. In the present invention: (i) the probe spots are arranged on a substrate divided into plural groups; (ii) hybridization signal is not measured for each probe spot (cell) but integral intensity is determined for each group; and (iii) the obtained pattern of signal intensities is used to determine the presence or absence of a certain acid (gene) in a sample. The probe spots are grouped and fixed in separate regions according to the types of probes, and the signal intensity of each region (total intensity of spots in the region) is determined. Importantly, the probe spots are grouped such that each region contains probes not found in other regions. Thus, the present invention provides a method and an array substrate suitable for mass screening, allowing to rapidly determine only the presence or absence of a gene variant, without the need for an expensive apparatus and complex analysis.

Gentalen discloses a DNA chip having at least three regions (cells), one containing a pool (mixture) of two kinds of probes, with the other two regions each containing only one of these two probes. Signal intensity is determined for each cell by using a scanning confocal microscope. When a target nucleic acid binds to both probes, the signal intensity from the pooled probe region is stronger than the added signals of other two probe regions.

Gentalen does not disclose or suggest probe spots grouped such that each region contains probes not found in other regions. The pooled region used in Gentalen require at least two regions to contain the same type of probes. Thus, Gentalen cannot affect the patentability of the presently claimed invention.

In fact, the Examiner informed Applicants' undersigned attorney in a telephonic interview, conducted on or about June 23, 2004, that if the claims are amended to clearly state that probe spots are grouped such that each region contains probes not found in other regions, they would be distinguished from Gentalen. Since Applicants have amended the claims in this manner,¹ it is respectfully submitted that the claims are patentable over Gentalen.


Wherefore, Applicants respectfully request that the outstanding rejection be withdrawn and that the present case be passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our

¹/ Applicants note that the present amendment to the claims was made merely to clarify their language. Specifically, the claims are believed to have already recited the grouping as discussed above.

address given below.

Respectfully submitted,



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